

## DEVELOPMENT OF STRATEGIC ENTERPRISE ARCHITECTURE DESIGN FOR THE OHIO DEPARTMENT OF TRANSPORTATION (ODOT)

### BACKGROUND

ODOT has a number of technology systems which were not developed in a comprehensive fashion or under one strategic vision. The current information technology environment limits ODOT's capacity to realize business efficiencies. To look at their technology needs more holistically, ODOT commissioned this project to develop a strategic enterprise architecture design.

### RESEARCH CONTEXT

The objective of this research project was to develop a customized, executable, strategic enterprise architecture design that could be implemented through a series of separate follow-up projects.

An enterprise architecture is a strategic technology plan that aligns with the strategic plan of the agency. The plan integrates the technology needs of the agency and leverages data, systems, technology infrastructure, and knowledge of staff members to support the efficient delivery of programs, operations, and services of ODOT.

### RESEARCH APPROACH

The research team conducted interviews of more than 100 staff members from various ODOT divisions and districts, as well as external stakeholders, including the Ohio Department of Administrative Services Office of Information Technology (DAS OIT). Additionally, the research team conducted 9 validation sessions to review and confirm interview findings, developed and validated ODOT business drivers, prepared an applications systems inventory, and developed a set of schematics which depict ODOT's As-Is applications architecture. A series of workshops were held for key ODOT stakeholders.

The eVision Partners team developed a proposed To-Be enterprise architecture and an implementation plan for migrating to the To-Be enterprise architecture, as well as supporting implementation strategies.

### IMPLEMENTATION BENEFITS

- Structured documentation of an organization's business drivers which promote better planning and decision making.
- Improved communication and collaboration.
- Business-centric architectural views.
- A focus on the strategic use of emerging technologies.
- Improved sharing of information across the enterprise by promoting consistency, accuracy and timeliness of information and integrity, quality, availability and access to information.
- Structured technology investment process.
- Better leveraging of technology spending.





Figure 1: ODOT Research Project Phases Mapped to TOGAF ADM

#### RESEARCH FINDINGS AND RECOMMENDATIONS

The research team concluded that ODOT is positioned to implement an enterprise architecture with full understanding that resource and timing issues must first be addressed.

- Business Architecture:** The research team concluded that ODOT is positioned for the successful implementation of an enterprise architecture as demonstrated by the initiation of this project by members of the executive team. This was indicative of the executive team recognizing the many technology issues present. The research team concluded that to be successful in implementing an enterprise architecture, ODOT should address several issues enumerated in the full report, including challenges within the structure of the IT organization and ODOT's technical governance.
- Application Architecture:** The research team concluded that systems such as Appropriation Accounting and Ellis are at end-of-life and should be replaced as soon as possible. Recent industry-leading deployments of systems have been and are being implemented by the State of Ohio's OAKS system (based on an Oracle PeopleSoft platform), and can form the basis of an enterprise resource planning (ERP) solution for ODOT.
- Data Architecture:** It was concluded by the research team that ODOT was in need of a data warehouse with business intelligence (BI) capabilities that would allow for a wide range of users to perform business analytics leading to the ability to make more informed decisions. It was recommended that ODOT implement an industry leading BI environment and integrate it with OAKS Plus ERP and other core ODOT applications. The new BI toolset should provide for end-user reporting and query, online analytical processing to support multi-dimensional analysis, management dashboards, graphic presentation, data mining, and performance management/measurement tools.
- Technical Architecture:** The research team concluded that three significant issues were likely to impact ODOT technical architecture in the very near future: the ODOT mainframe reaching end-of-life status, the DAS IT Optimization and the SOCC Remediation projects.